

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of the claims in the application.

1. (Currently amended) A ~~delivery~~ device actuatable to deliver substance into a cavity, comprising:

a delivery outlet from which substance is in use delivered;

a gas chamber containing a gas and being of reducible volume, wherein a reduction in the volume of the gas chamber to a predetermined volume acts to pressurize the contained gas to a predetermined pressure;

a seal element disposed between the gas chamber and the delivery outlet; and

an opening mechanism configured, on reduction of the volume of the gas chamber to a predetermined volume, to open the seal element, whereupon a gas flow from the gas chamber acts to deliver substance from the delivery outlet; and

an expansion mechanism configured to expand a cavity into which the device, in use, is inserted,
wherein the device is configured such that application of an actuation force to the device causes an expansion of the expansion mechanism to expand the cavity and the device to deliver substance into the cavity.

2. (Original) The delivery device of claim 1, wherein the gas chamber is defined in part by a flexible member to which an actuating force is in use applied in actuating the delivery device, with the actuating force acting to depress the flexible member such as to reduce the volume of the gas chamber and pressurize the gas contained therein.

3. (Original) The delivery device of claim 2, wherein the flexible member comprises an outwardly-projecting member which is depressed on application of an actuating force.

4. (Original) The delivery device of claim 3, wherein the flexible member comprises a dome-shaped member.
5. (Previously presented) The delivery device of claim 3, wherein the flexible member is configured such as to provide for deflection thereof in a controlled, predetermined fashion in depressing the same on application of an actuating force.
6. (Original) The delivery device of claim 5, wherein the flexible member is one or both of shaped or sized to provide for controlled deflection.
7. (Original) The delivery device of claim 6, wherein the flexible member includes ribs which provide for controlled deflection.
8. (Previously presented) The delivery device of claim 2, wherein the seal element comprises a rupturable element, and the opening mechanism includes a rupturing element which acts to rupture the rupturable element on depression of the flexible member to a predetermined extent.
9. (Original) The delivery device of claim 8, wherein the rupturing element is supported at an inner surface of the flexible member in opposed relation to the rupturable element such as to be moved in a direction of an actuating force as applied to the flexible member.
10. (Withdrawn) The delivery device of claim 8, wherein the opening mechanism comprises an actuating arm which supports the rupturing element, with the actuating arm being movably disposed relative to the rupturable element on engagement by the flexible member, such that, on depression of the flexible member to a predetermined extent, the actuating arm is moved such as to cause the rupturing element to rupture the rupturable element.

11. (Withdrawn) The delivery device of claim 10, wherein the actuating arm is hingeably supported such that the rupturing element is rotated to rupture the rupturable element.

12. (Withdrawn) The delivery device of claim 8, wherein the opening mechanism comprises a link assembly which supports the rupturing element, with the link assembly being movable relative to the rupturable element on engagement by the flexible member, such that, on depression of the flexible member to a predetermined extent, the link assembly is moved such as to cause the rupturing element to rupture the rupturable element.

13. (Withdrawn) The delivery device of claim 12, wherein the link assembly comprises first, second and third hinged links, with the first link being hinged relative to the rupturable element, the second link supporting the rupturing element at one, forward end thereof and the third link coupling the respective other ends of the first and second links, whereby depression of the flexible member acts to hinge the first link relative to the rupturable element, which movement, through the coupling provided by the third link, acts to drive the second link forwardly to cause the rupturing element supported thereby to rupture the rupturable element.

14. (Withdrawn) The delivery device of claim 2, wherein the seal element comprises a valve element, and the opening mechanism is configured to release the valve element on depression of the flexible member to a predetermined extent.

15. (Withdrawn) The delivery device of claim 14, further comprising:

a gas supply passage operatively in fluid communication with the delivery outlet;
and

wherein the valve element is normally in a closed position in sealing engagement with the gas supply passage, and moved to an open position out of sealing engagement

with the gas supply passage by the opening mechanism on depression of the flexible member to a predetermined extent.

16. (Withdrawn) The delivery device of claim 15, wherein the opening mechanism comprises a link assembly which supports the valve element, with the link assembly being movable relative to the gas supply passage on engagement by the flexible member, such that, on depression of the flexible member to a predetermined extent, the link assembly is moved such as to cause the valve element to be moved to the open position.

17. (Withdrawn) The delivery device of claim 16, wherein the link assembly comprises first, second and third hinged links, with the first link being hinged relative to the gas supply passage, the second link supporting the valve element at one, forward end thereof and the third link coupling the respective other ends of the first and second links, whereby depression of the flexible member acts to hinge the first link relative to the gas supply passage, which movement, through the coupling provided by the third link, acts to drive the second link to cause the valve element supported thereby to be moved to the open position.

18. (Withdrawn) The delivery device of claim 17, wherein the link assembly is configured such that the valve element is withdrawn from the gas supply passage on depression of the flexible member to a predetermined extent.

19. (Withdrawn) The delivery device of claim 16, wherein the link assembly comprises first and second hinged links, with the first link being hinged relative to the gas supply passage and the second link supporting the valve element at one, forward end thereof, whereby depression of the flexible member acts to hinge the first link relative to the gas supply passage, which movement acts to drive the second link to cause the valve element supported thereby to be moved to the open position.

20. (Withdrawn) The delivery device of claim 19, wherein the valve element is pushed from the gas supply passage on depression of the flexible member to a predetermined extent.

21. (Withdrawn) The delivery device of claim 19, wherein the link assembly further comprises a supporting arm which acts normally to support the link assembly such that the valve element is in the closed position.

22. (Withdrawn) The delivery device of claim 15, wherein the opening mechanism comprises an actuating arm which supports the valve element, with the actuating arm being movably disposed relative to the gas supply passage on engagement by the flexible member, such that, on depression of the flexible member to a predetermined extent, the actuating arm is moved such as to move the valve element to the open position.

23. (Withdrawn) The delivery device of claim 22, wherein the actuating arm is hingeably supported such that the valve element is rotated from the closed position.

24. (Withdrawn) The delivery device of claim 23, wherein the valve element comprises a flap.

25. (Withdrawn) The delivery device of claim 22, wherein the valve element is normally biased to the gas supply passage in the closed position.

26. (Withdrawn) The delivery device of claim 22, wherein the valve element is bonded to the gas supply passage in the closed position.

27. (Previously presented) The delivery device of claim 1, further comprising:
at least one substance chamber for containing substance operatively in fluid communication with the delivery outlet.

28. (Original) The delivery device of claim 27, comprising:

first and second substance chambers, each separately containing substance components which are combined for delivery.

29. (Cancelled)

30. (Currently amended) The delivery device of claim 1[[29]], wherein the expansion mechanism provides for sealing engagement with the body cavity.

31. (Currently amended) The delivery device of claim 1[[29]], wherein the expansion mechanism comprises first and second expansion arms disposed in opposed relationship to respective sides of the delivery outlet, and an actuation member which in use is actuated by a subject in actuating the delivery device and effects expansion of the expansion arms.

32. (Original) The delivery device of claim 31, wherein the actuation member comprises an actuation body and first and second biasing arms extending forwardly of the actuation body such as to engage respective ones of the first and second expansion arms, whereby actuation of the actuation body acts to cause expansion of the first and second expansion arms.

33. (Original) The delivery device of claim 32, wherein the first and second biasing arms comprise resilient elements which act to bias respective ones of the first and second biasing arms outwardly.

34. (Currently amended) The delivery device of claim 1[[29]], wherein the expansion mechanism comprises first and second levers which are pivotally hinged relative to opposed sides of the delivery outlet, each of the levers comprising a first, expansion arm

extending forwardly and laterally of the delivery outlet and a second, biasing arm extending rearwardly, whereby, on application of an actuation force to the biasing arms such as to bias the same inwardly, the expansion arms are driven outwardly to effect expansion of the same.

35. (Original) The delivery device of claim 34, wherein the actuation member comprises an actuation body and first and second links which couple respective ones of the biasing arms to the actuation body.

36. (Withdrawn, Currently amended) The delivery device of claim 1[[29]], wherein the expansion mechanism comprises a lever which is hinged relative to delivery outlet, the lever comprising a loading arm which is acted upon by a subject in actuating the delivery device, and an expansion arm extending forwardly to one side of the delivery outlet, whereby the expansion arm is moved outwardly relative to the delivery outlet on a subject acting upon the loading arm.

37. (Currently amended) The delivery device of claim 1, wherein the cavity delivery device is a nasal cavity delivery device.

38. (Currently amended) The delivery device of claim 1, wherein the cavity delivery device is an oral cavity delivery device.

39. (Previously presented) The delivery device of claim 1, wherein substance is delivered as a liquid.

40. (Previously presented) The delivery device of claim 1, wherein substance is delivered as a powder.

41. (Currently amended) A delivery device, comprising:

a gas-filled chamber of variable volume;
a delivery outlet coupled to the chamber and from which substance is deliverable,
carried by the gas from the chamber;
a seal between the chamber and the delivery outlet; and
opening means for opening the seal on reduction of the volume of the chamber to
a predetermined volume, to allow the gas pressurized by the reduction in the volume of
the chamber to flow through the delivery outlet; and
an expansion mechanism configured to expand a cavity into which the device, in
use, is inserted,
wherein the device is configured such that application of an actuation force to the device
causes an expansion of the expansion mechanism to expand the cavity and the device to
deliver substance into the cavity.

42. (Withdrawn) A method of delivering substance, comprising the steps of:

reducing the volume of a gas-filled chamber to pressurize the gas contained
therein;

when the volume of the chamber is reduced to a predeterminable volume,
providing a fluid connection between the chamber and a delivery outlet such as cause the
pressurized gas to deliver substance from the delivery outlet.

43-44. (Cancelled)

45. (New) The device of claim 1 or 41, wherein the cavity is a mammalian body cavity.

46. (New) A device actuatable to deliver substance, comprising:

a delivery outlet from which substance is in use delivered;
a gas chamber containing a gas and being of reducible volume, wherein the gas
chamber comprises a flexible member to which an actuating force is, in use, applied to
actuate the device, with the actuating force acting to depress the flexible member to a

predetermined extent such as to reduce the volume of the gas chamber and pressurize the gas contained therein;

a seal element disposed between the gas chamber and the delivery outlet, wherein the seal element comprises a rupturable element; and

an opening mechanism comprising a rupturing element configured to rupture the rupturable element on depression of the flexible member, whereupon a gas flow from the gas chamber acts to deliver substance from the delivery outlet;
wherein the rupturing element is supported at an inner surface of the flexible member in opposed relation to the rupturable element and is configured to be moved in the direction of the actuating force as applied to the flexible member.